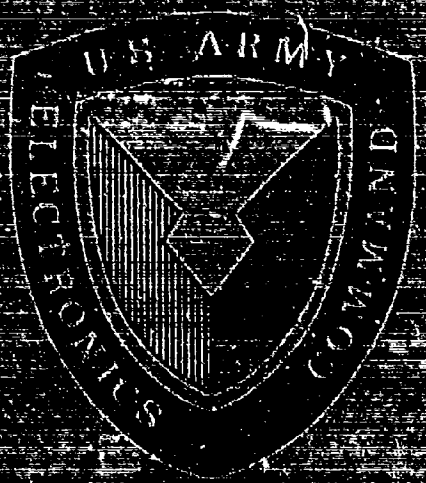
U. S. ARMY ELECTRONICS COMMAND

Fort Monmouth, New Jersey



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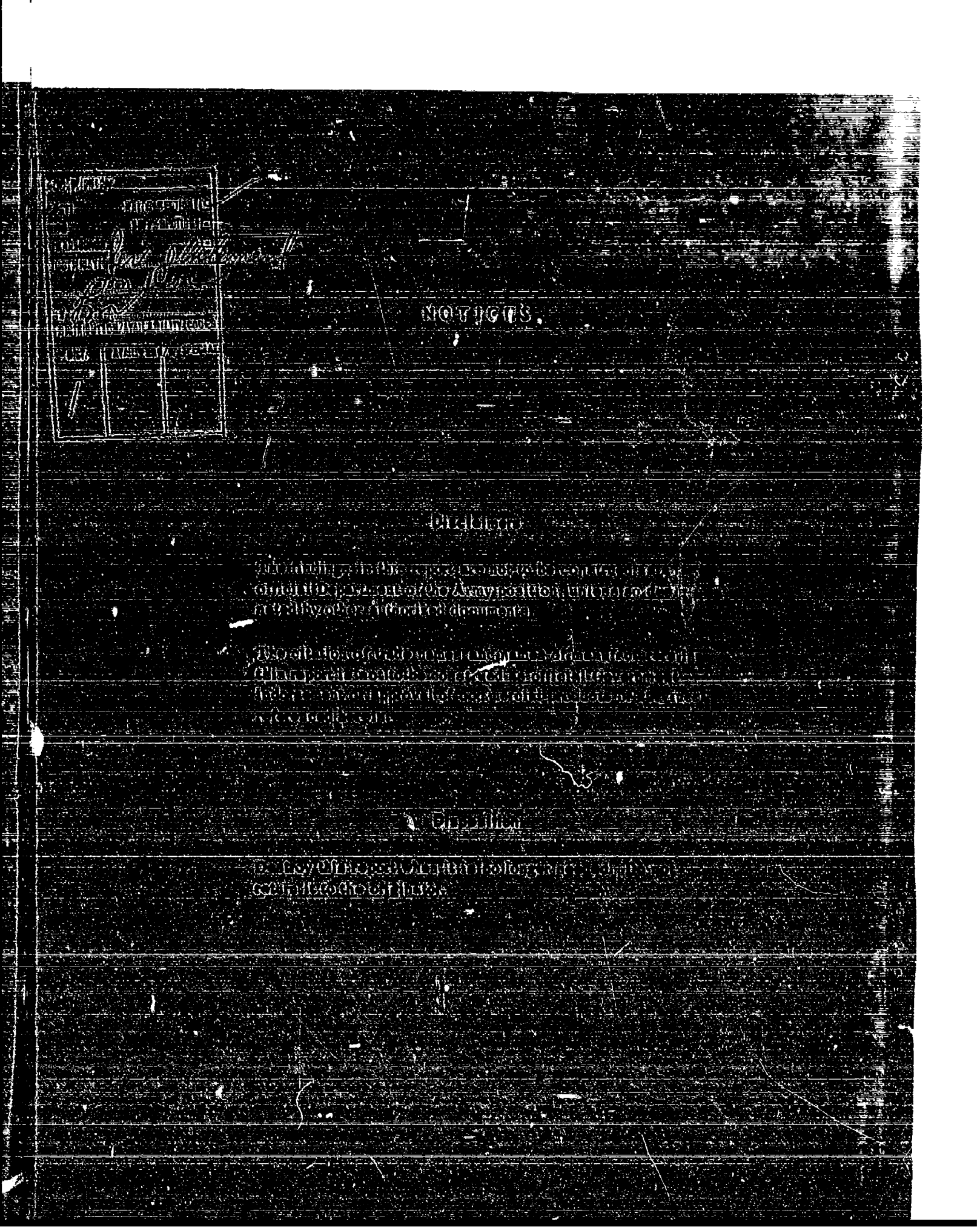
SELECTIVE DISSEMINATION OF INFORMATION (SDI)

OCTOBER 1966

TECHNICAL INFORMATION DIVISION
INFORMATION OFFICE



INTRODUCTION

SELECTIVE DISSEMINATION OF INFORMATION (SDI)

Under the NAPALM Program, the U. S. Army Electronics Command has been assigned subproponency for the STINFO project, "Selective Dissemination of Information." The purpose of the project is to develop a standard SDI computer program for use by AMC commands, installations and activities in servicing the scientific and technical information needs of their scientists and engineers on an individualized, current awareness basis in support of the overall RDTE program.

SYSTEM NARRATIVE

The SDI system will provide a computer capability for screening semi-monthly approximately 3,000 new technical reports generated by DOD agencies and their contractors and selectively disseminating pertinent documents to individual scientists and engineers on the basis of their specified technical interests.

The system is designed to maintain a high level of scientific current awareness among technical personnel with a minimum of effort on the part of the individual, and a minimum drain on his productive time. It is aimed at achieving maximum application of external scientific achievements pertinent to command projects and to reduce duplication of scientific work.

Scientific and technical personnel engaged in RDTE are profiled to obtain a list of approximately 20 descriptors that depict each subscriber's primary technical interests. The profile may be representative of a subtask, a group of individuals with common technical interests, or of an individual. The profiles of subscribers are entered on a master profile tape.

The document input to the system consists of the document accessions of the Defense Documentation Center (DDC), announced semi-monthly in the DDC Technical Abstract Bulletin. The print-out tape for the bulletin is acquired from DDC for use in the SDI system.

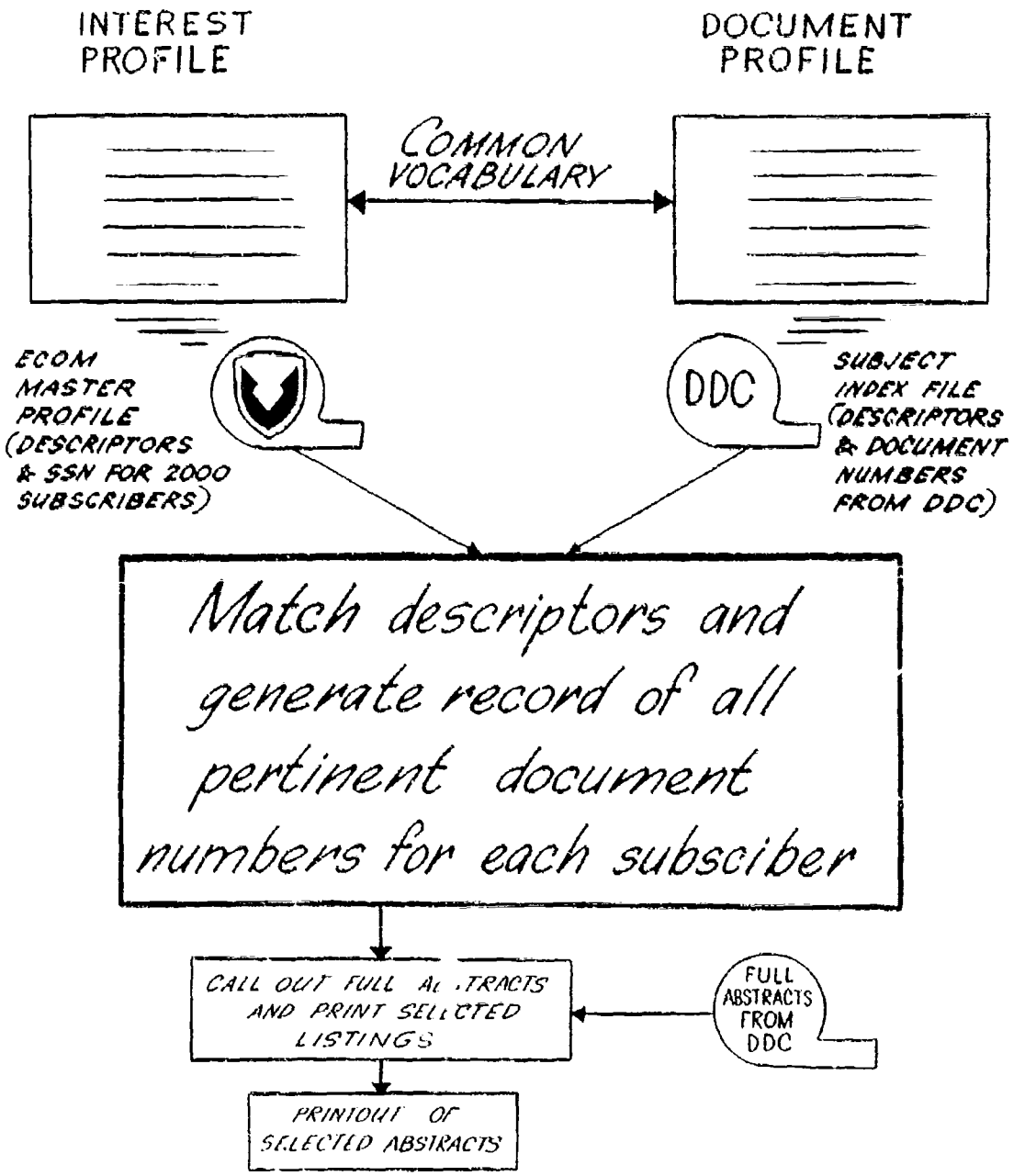
Semi-monthly, the master profile tape of user descriptors is matched against the document descriptor tape supplied by DDC, both tapes being in the same descriptor language. Abstracts of documents whose primary index terms match those of a subscriber are printed out as a "Selected Abstract Listing" for each subscriber. This listing notifies a subscriber of new documents pertinent to his specified interests, and provides for his ordering of the announced documents by listing the document numbers and returning the order sheet to the computer processing unit. Hard copies of documents are ordered from DDC and forwarded to the subscriber by mail.

Feedback data consists of a cumulative tally of document referrals and document orders for each descriptor in a subscriber's profile. Periodically, a profile descriptor activity print-out is sent to each subscriber for possible revision of his profile.

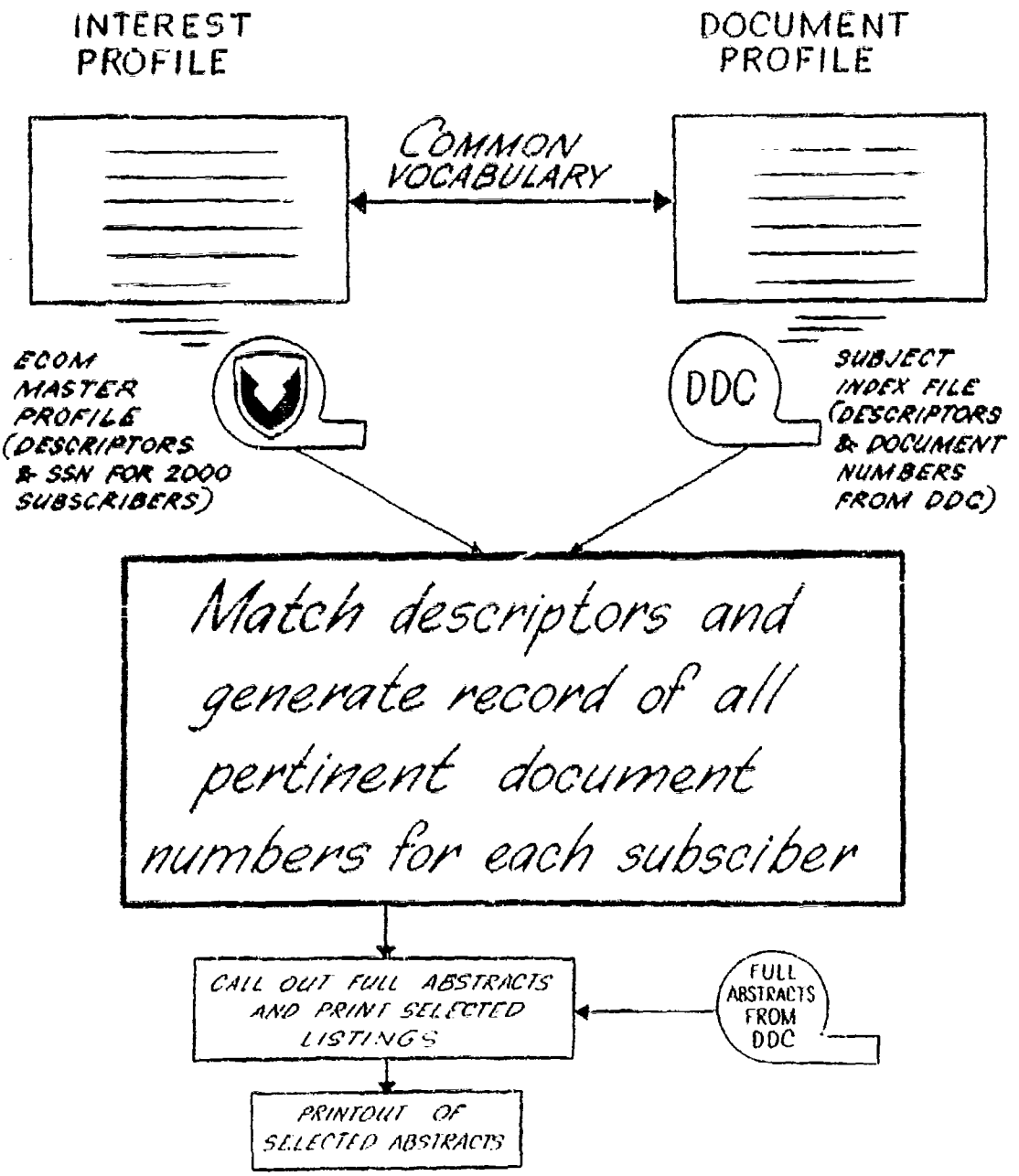
STATUS

Computer programming for the SDI system has been completed and debugged. Initial operational runs with 50 subscribers are underway to evaluate the effectiveness of the matching technique, check the descriptor activity of user profiles, and generally prove out the system before adding large increments of subscribers.

SYSTEM CONCEPT



SYSTEM CONCEPT



RESULTS FROM PILOT RUN

CHECKOUT OF SYSTEM ON SEMI-AUTOMATED BASIS

LENGTH OF TIME IN OPERATION : 18 MONTHS

NUMBER OF SUBSCRIBERS : 82

PRODUCTS : 4,000 SELECTED ABSTRACTS PER MONTH
450 DOCUMENTS ORDERED FROM DDC PER MONTH

STATISTICS :

AVERAGE NUMBER OF ABSTRACTS PER BOOKLET : 25

AVERAGE NUMBER OF INTEREST : 40 %

AVERAGE NUMBER ORDERED : 15 %

PERCENTAGE INCREASE IN USE OF DDC OVER PRIOR 18 MONTHS : 400 %

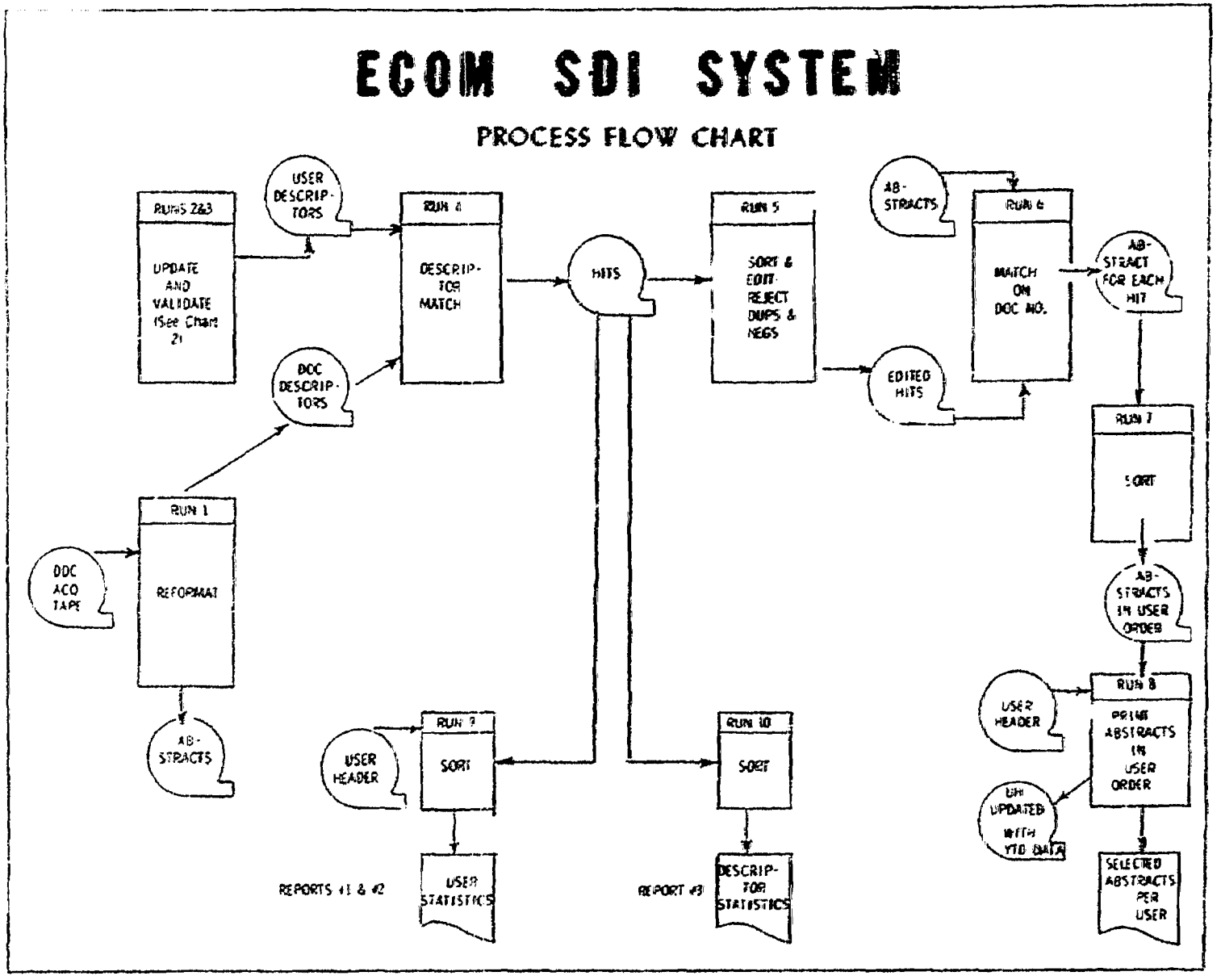
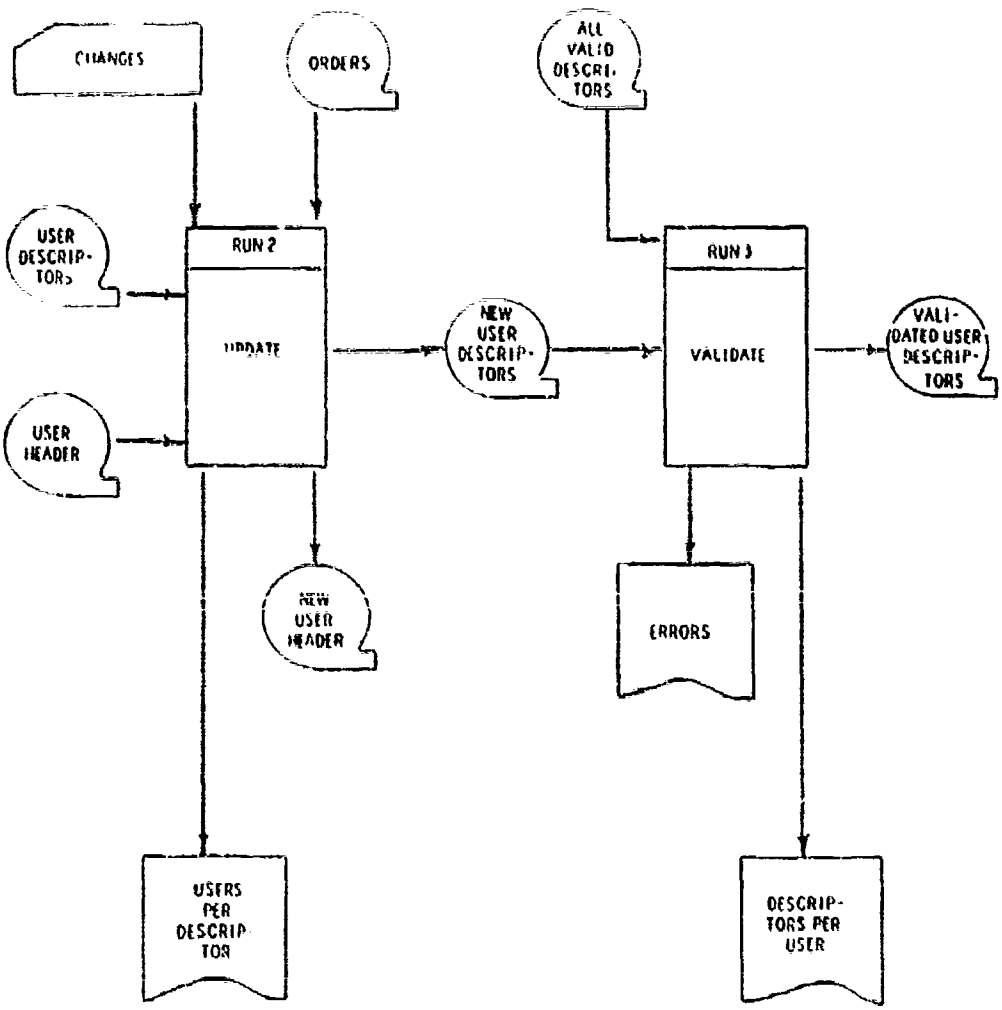

ECOM SDI SYSTEM
PROCESS FLOW CHART
RUNS 2&3
UPDATE AND VALIDATE (See Chart 2)
USER DESCRIP-TORS
DOC DESCRIP-TORS
RUN 4
DESCRIP-TOR MATCH
HITS
RUN 5
SORT & EDIT-REJECT DUPS & NEGS
EDITED HITS
AB-STRACTS
RUN 6
MATCH ON DOC NO.
AB-STRACT FOR EACH HIT
RUN 7
SORT
AB-STRACTS IN USER ORDER
RUN 8
PRINT ABSTRACTS IN USER ORDER
USER HEADER
SDI UPDATED WITH YTD DATA
SELECTED ABSTRACTS PER USER
DDC ACO TAPE
RUN 1
REFORMAT
AB-STRACTS
RUN 9
SORT
USER HEADER
REPORTS #1 & #2
USER STATISTICS
RUN 10
SORT
REPORT #3
DESCRIP-TOR STATISTICS

CHART 2

UPDATE & VALIDATE RUNS



SDI PROGRAM NARRATIVE

RUN 1 The document acquisition tape received from DDC is reformatted into a tape containing document descriptors and applicable document numbers and another containing abstracts and bibliographic data for each document.

RUN 2 The user descriptor tape, a master file of all descriptors listed in subscribers' profiles, is updated to reflect changes, deletions and additions. The user header tape (updated in Run 8 with YTD data on abstracts per descriptor) is further updated to add or delete subscribers and enter YTD data on document orders per descriptor. As required, a print-out is generated listing users per descriptor.

RUN 3 Using DDC's master descriptor tape, containing all terms in its thesaurus, a validation run is made against the SDI user descriptor tape to ensure complete identity of vocabulary for the matching run. A print-out of non-identical descriptors is generated and, as required, a print-out listing descriptors per user.

RUN 4 The user descriptor and document descriptor tapes are matched on descriptor fields. When an equal condition occurs, an output record is generated on tape containing the descriptor, document number, user number, asterisk flag and negative flag. The asterisk flag denotes that the descriptor's use for this particular document was in a primary capacity. The negative flag denotes that the descriptor's use for this particular user was to reject documents using this descriptor.

RUN 5 The matched descriptor tape is edited to eliminate multiple referral of the same document to a user and to reject records containing a negative flag. The edited matched descriptor tape is sorted on document numbers.

RUN 6 The abstract tape created from the DDC tape in Run 1 and the edited matched descriptor tape are compared on document number. When an equal condition occurs, an output tape record is generated containing the document abstract, associated bib data, and the user number.

RUN 7 The tape generated in Run 6 is sorted in user order.

RUN 8 The abstract tape in user order and the user header tape are used as input for print-out of selected abstracts per user. The user header is updated with YTD data on abstracts per descriptor per user.

RUN 9 The matched descriptor tape created in Run 4 and the user header tape updated in Run 8 are used as input to create two user statistics reports: (1) Number of hits for each descriptor in each user's profile, and (2) The number of abstracts sent to each user.

RUN 10 Hit tape is sorted to provide a listing of the hits scored by each descriptor.

APPENDIX

TO:
TECH INFO DIVISION
AMSEL-IO-T
HEXAGON

SDI USER PROFILE

PLEASE PRINT

Name JOHN CHARLTON (11-40)

Phone Ext. 5178 (42-51)

Mail Symbol AMSEL-KL-EM (53-64)

SOCIAL SECURITY NO. 151-24-1725 (1-9)

PRIMARY SUBTASK NO. 1L6-34372-D123-05

DESCRIPTORS

(10-69)

ANTIRADAR-COATINGS
ACOUSTICS
ANISOTROPY
CRYSTAL-GROWTH
CRYSTAL-LATTICE-DEFECTS
CRYSTALS
GRAIN-BOUNDARIES
PHONONS
SINGLE-CRYSTALS
MAGNETIC-PROPERTIES
PERMEABILITY(MAGNETIC)
MOSSBAUER-EFFECT
FERRITES
PARTICLES
FERROMAGNETIC-MATERIALS
MAGNETIC-MATERIALS
MAGNETIC-CORES
CERAMIC-MATERIALS
ELECTROACOUSTIC-TRANSDUCERS
PARAMAGNETIC-MATERIALS

(PLEASE LIMIT TO 24)

NEGATIVE TERMS

(10-69)
(11 in 79)

SONAR
UNDERWATER-SOUND
ELEMENTARY-PARTICLES

(PLEASE LIMIT TO 4)

SAMPLE COVER SHEET

1. TO: JOHN CHARLTON
AMSEL-KL-EM

2. TO: TECH INFO DIV
AMSEL-IO-T
HEXAGON

SDI
SELECTED ABSTRACTS

TO ORDER HARD COPIES OF ANY OF THE DOCUMENTS ANNOUNCED IN THIS BOOKLET, MERELY LIST THE "AD" DOCUMENT NUMBERS BELOW AND RETURN THIS COVER SHEET TO TECH INFO DIV.

AD-_____	AD-_____
AD-_____	AD-_____
AD-_____	AD-_____
AD-_____	AD-_____
AD-_____	AD-_____
AD-_____	AD-_____
AD-_____	AD-_____
AD-_____	AD-_____
AD-_____	AD-_____
AD-_____	AD-_____

SSN: 151-24-1725
EXT. 51585

ABSTRACT PRINTOUT

DOCUMENT NUMBER: 635579

TITLE:
INFRARED SPECTRA OF MOLECULAR CRYSTALS

BY:
DOWS, DAVID A. ;AUDERMANN,G. ;RUBENSTEIN,L. ;RICH,N.

FINAL TECHNICAL REPT.

SOURCE:
UNIVERSITY OF SOUTHERN CALIFORNIA LOS ANGELES

DESCRIPTORS:
(*INFRARED SPECTROSCOPY, *CRYSTALS), REFLECTION, ABSORPTION SPECTRUM, INTENSITY, MOLECULAR ASSOCIATION, CRYSTAL LATTICES, PHASE STUDIES, CRYSTAL STRUCTURE, MOLECULAR STRUCTURE, POLYCYCLIC COMPOUNDS

ABSTRACT:
STUDIES WERE CARRIED OUT TO CHARACTERIZE AND EXPLAIN THE INFRARED ABSORPTION AND REFLECTANCE SPECTRA OF MOLECULAR CRYSTALS. ACCURATE METHODS OF MEASURING REFLECTANCE SPECTRA AND OF PROCESSING THE DATA TO OBTAIN OPTICAL CONSTANTS WERE DEVELOPED AND APPLIED TO SODIUM CHLORATE. ABSOLUTE INFRARED ABSORPTION INTENSITIES WERE MEASURED FOR ETHYLENES, BENZENES, ACETYLENE AND ETHANE. THEORETICAL STUDIES OF CRYSTAL SPLITTING AND LATTICE FREQUENCIES IN BENZENE HAVE PROVIDED DATA CONCERNING INTERMOLECULAR FORCES IN THIS CRYSTAL SPLITTING OF UNGERADE VIBRATIONS, AND PROVIDE THE RESTORING FORCE FOR TORSIONAL LATTICE MOTION. PHASE CHANGES IN ADAMANTANE, CYCLOHEXANE AND HEXAMETHYLBENZENE WERE STUDIED. SPECTROSCOPICALLY OBSERVABLE CHANGES OCCURING AT THE PHASE TRANSITION TEMPERATURE YIELD INFORMATION CONCERNING THE MOLECULAR MOTIONS.
CRYSTAL SPECTRA WERE USED TO AID IN VIBRATIONAL ASSIGNMENT OF HYDRAZOIC ACID AND CYCLOHEXANE, THE UNIQUE PROPERTIES OF THE CRYSTAL SPECTRUM WERE OF CRITICAL VALUE IN EACH CASE.
(AUTHOR)

DATE: 09-30-66

STINFO STATISTICAL ANALYSIS #1

USER NUMBER	DESCRIPTOR		NEG USE		POS DESC.		
081-22-1119	ATTENUATION				1		
	PHOTOELECTRIC-PYROMETERS				1		
	SPECTRUM-ANALYZERS				1		
		SUB-TOTAL	0	+	3	=	3
089-16-3511	INFORMATION-RETRIEVAL				1		
		SUB-TOTAL	0	+	1	=	1
120-24-1822	DATA-STORAGE-SYSTEMS				1		
	INFORMATION-RETRIEVAL				1		
		SUB-TOTAL	0	+	2	=	2
149-24-2783	INPUT-OUTPUT-DEVICES				2		
	OPTICAL-SCANNING				1		
		SUB-TOTAL	0	+	3	=	3
151-24-1725	ACOUSTICS				7		
	CERAMIC-MATERIALS				1		
	CRYSTAL-GROWTH				3		
	CRYSTALS				2		
	FERRITES				1		
	MOSSBAUER-EFFECT				1		
	PARTICLES				2		
	PHONONS				2		
		SUB-TOTAL	0	+	19	=	19
171-01-6526	DATA-PROCESSING-SYSTEMS				1		
	DATA-STORAGE-SYSTEMS				1		
	DISPLAY-SYSTEMS				2		
	INFORMATION-RETRIEVAL				1		
	INPUT-OUTPUT-DEVICES				2		
	OPTICAL-EQUIPMENT				2		
	OPTICAL-SCANNING				1		
		SUB-TOTAL	0	+	10	=	10

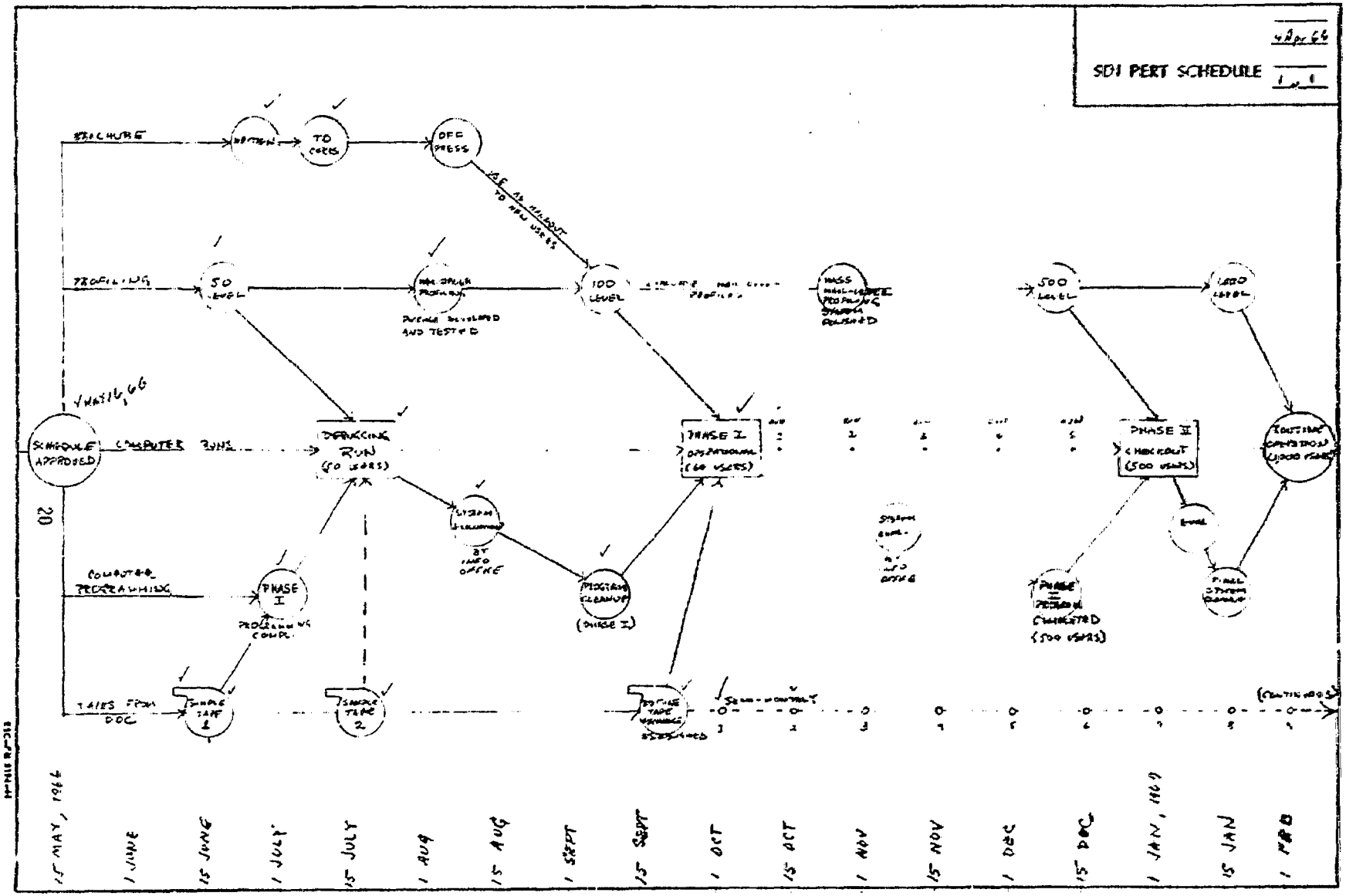
SAMPLE ANALYSIS REPORTS

DATE: 09-30-66

STINFO STATISTICAL ANALYSIS #2

USER NAME	USER NUMBER	NO. ABS.	NO. DOC. ORDERED	Y.T.D. NO. ABS.	NO. DOC. ORDERED Y.T.D.
ZENO STANGHILO	000-00-0001	6		0	0
JOHN STROZYK	000-00-0002	10		0	0
STAN DANKO	000-00-0003	8		0	0
DR, KURT IKRATH	000-00-0009	4		0	0
DR HELMUT BRUECKMANN	000-00-0010	24		0	0
RAYMOND ROSS	000-00-0011	2		0	0
GEORGE SUMRALL	000-00-0012	10		0	0
SAMUEL DIVITA	000-00-0013	5		0	0
HERSHEL STOUT	000-00-0014	0		0	0
EMANUEL GIKOW	000-00-0015	2		0	0
DANIEL ELDERS	000-00-0016	5		0	0
MORTON EICHEL	000-00-0017	10		0	0
DR HANS K ZIEGLER	000-00-0018	4		0	0
JOSEPH BERGMAN	000-00-0019	9		0	0
W L DOXEY	000-00-0020	4		0	0
DR ERWIN BISER	000-00-0021	16		0	0
DONALD D CURRY	000-00-0024	3		0	0
STANLEY HOWA JR	000-00-0026	16		0	0
KEN WAY	000-00-0027	14		0	0
JOE DE CLERK	000-00-0029	5		0	0
JOHN O NEILL	000-00-0030	13		0	0
DR EDUARD GERBER	000-00-0031	12		0	0

DESCRIPTOR	DOCUMENT NUMBER	USER NUMBER	NEG USE	POS USE	NEG TOTALS	POS TOTALS
DATA-PROCESSING-SYSTEMS	AD-636-144	000-00-0012		+		
		171-01-6526		+		
		000-00-0027		+		
		334-28-7689	+			
		SUB-TOTAL	1 +	3 =		4
DATA-STORAGE-SYSTEMS	AD-636-049	162-22-7819		+		
		000-00-0012		+		
		120-24-1822		+		
		171-01-6526		+		
		334-28-7689	+			
		000-00-0057	+			
		SUB-TOTAL	2 +	4 =		6
DATA-TRANSMISSION-SYSTEMS	AD-635-975	000-00-0027		+		
		SUB-TOTAL	0 +	1 =		1
DECISION-MAKING	AD-635-567	334-28-7689	+			
	AD-635-597	334-28-7689	+			
		334-28-7689	+			
	AD-635-602	334-28-7689	+			
	AD-635-648	334-28-7689	+			
	AD-635-674	334-28-7689	+			
	AD-635-941	334-28-7689	+			
	AD-636-104	334-28-7689	+			
	AD-636-175	334-28-7689	+			
		SUB-TOTAL	9 +	0 =		9


4 Apr 66
SDI PERT SCHEDULE
1 of 1
BROCHURE
TO PRESS
TO USERS
PROFILING
50 LEVEL
100 LEVEL
500 LEVEL
1000 LEVEL
PROFILE DEVELOPED AND TESTED
MASS STORAGE PROFILE DESIGN RELEASED
SCHEDULE APPROVED
COMPUTER RUNS
DEBUGGING RUN (50 USERS)
PHASE I OPERATIONAL (100 USERS)
PHASE II (500 USERS)
COMPUTER PROGRAMMING
PHASE I PROGRAMMING COMPLETE
PROGRAM CLEANUP (PHASE I)
PHASE II PROGRAMMING COMPLETED (500 USERS)
TAPES FROM DOC
SIMULATE TAPE 1
SIMULATE TAPE 2
1 MAY, 1966
1 JUNE
15 JUNE
1 JULY
15 JULY
1 AUG
15 AUG
1 SEPT
15 SEPT
1 OCT
15 OCT
1 NOV
15 NOV
1 DEC
15 DEC
1 JAN, 1967
15 JAN
1 FEB